

What is claimed is:

1. A method for providing a user an interface to a voice application, the method comprising the steps of:

providing a user with an interface to access the application and to invoke one of a plurality of application services;

- 5 selecting an application service for the user, without the user requesting said application service, as a function of information representative of the user's past access to the application; and

providing the selected application service to the user.

2. A method according to claim 1, wherein the information representative of the user's past access to the application includes an identifier associated with a service provided by the application.

3. A method according to claim 1, wherein the information representative of the user's past access to the application includes a time that the user requested the service.

4. A method according to claim 1, wherein the information representative of the user's past access to the application includes a date that the user requested the service.

5. A method according to claim 1, wherein the information representative of the user's past access to the application includes a location from which the user requested the service.

6. A method according to claim 1, wherein the step of selecting an application service for the user, comprises:

determining, for a predetermined number of occurrences of a time period, a number of times the user selected an application service during the predetermined

5 number of the occurrences of the time period; and

selecting the application service if the number of times the user selected the application service during the predetermined number of the occurrences of the time period is equal to or above a predetermined threshold.

7. A method according to claim 6, wherein selecting the application service comprises selecting an application service if a ratio of the number of times the user selected the application service during the predetermined number of occurrences of the time period to the number of times the user could have selected the application service

5 during the predetermined number of occurrences of the time period is equal to or above a predetermined threshold.

8. A method according to claim 6, further comprising, for each time period, counting more than one occurrence that the user selected the application service as only one occurrence.

9. A method according to claim 6, wherein the selected application service is the application service that the user accessed most frequently during the predetermined number of occurrences of the time period.

10. A method according to claim 6, further comprising:  
creating a plurality of time periods wherein each day includes more than one time period.

11. A method according to claim 6, further comprising:  
creating a plurality of time periods wherein each week includes a weekday time period and a weekend time period.

12. A method according to claim 11, wherein creating a plurality of time periods further comprises creating a plurality of time periods wherein each day includes more than one time period.

13. A method according to claim 6, further comprising:  
ranking each of the time periods by priority such that if a user selected a service at a time within two different time periods and one of the two time periods has a higher priority, a pattern for the one of the two time periods having the greater priority is considered first.

14. A method according to claim 1, further comprising:

allowing the user to view and modify the information representative of the user's past access to the application.

15. A method according to claim 6, further comprising:

recognizing the input of the user to provide a speech recognition;

determining an accuracy of the speech recognition;

wherein providing the application service to the user comprises providing the

5 application service to the user during the time period if the number of times the user selected the application service during the predetermined number of the occurrences of the time period is equal to or above a first predetermined threshold and if the accuracy of the speech recognition is within a predetermined accuracy range.

16. An apparatus for providing a user an interface to a voice application, the apparatus comprising:

a server having a processor and associated memory, wherein the server includes:

means for providing a user with an interface to access the application and

5 to invoke one of a plurality of application services;

means for selecting an application service for the user, without the user requesting said application service, as a function of information representative of the user's past access to the application; and

means for providing the selected application service to the user.

17. An apparatus according to claim 16, wherein the information representative of the user's past access to the application includes an identifier associated with a service provided by the application.

18. An apparatus according to claim 16, wherein the information representative of the user's past access to the application includes a time that the user requested the service.

19. An apparatus according to claim 16, wherein the information representative of the user's past access to the application includes a date that the user requested the service.

20. An apparatus according to claim 16, wherein the information representative of the user's past access to the application includes a location where the user requested the service.

21. An apparatus according to claim 16, wherein the means for selecting an application service for the user comprises:

means for determining, for a predetermined number of occurrences of a time period, a number of times the user selected an application service during the

5 predetermined number of the occurrences of the time period; and

means for selecting the application service if the number of times the user selected the application service during the predetermined number of the occurrences of the time period is equal to or above a predetermined threshold.

22. An apparatus according to claim 21, wherein the means for selecting an application service for the user comprises means for selecting an application service if a ratio of the number of times the user selected the application service during the predetermined number of occurrences of the time period to the number of times the user could have selected the application service during the predetermined number of occurrences of the time period is equal to or above a predetermined threshold.

23. An apparatus according to claim 21, wherein the server further includes, for each time period, means for counting more than one occurrence that the user selected the application service as only one occurrence.

24. An apparatus according to claim 21, wherein the server further includes:  
means for creating a plurality of time periods wherein each day includes more than one time period.

25. An apparatus according to claim 21, wherein the server further includes:  
means for creating a plurality of time periods wherein each week includes a weekday time period and a weekend time period.

26. An apparatus according to claim 25, wherein the means for creating a plurality of time periods further comprises means for creating a plurality of time periods wherein each day includes more than one time period.

27. An apparatus according to claim 24, wherein the server further includes:

means for ranking each of the patterns by priority such that if a user called at a time and a plurality of patterns correspond to the time, one of the plurality of patterns having a greatest priority is considered first.

28. An apparatus according to claim 16, wherein the server further includes:

means for allowing the user to view and modify the information about the input of the user.

29. A method for providing a user an interface to a voice application, the method comprising:

providing a user with an interface to access the application and to invoke one of a plurality of application services;

obtaining and storing information about a plurality of application services invoked by the user;

analyzing the information about a plurality of application services invoked by the user to determine a pattern of usage of one or more available application services;

selecting for the user an application service based upon the pattern of usage; and

providing the selected application service to the user.

30. A method according to claim 29, wherein selecting for the user an application service based upon the pattern of usage comprises selecting an application if a frequency with which the user invoked the application service is above a predetermined threshold.

31. A method according to claim 30, wherein the frequency is determined by dividing a number of times that the user invoked the application service during a predetermined number of occurrences of a time period by the predetermined number of occurrences of the time period.

5

32. A method according to claim 31, wherein the time period is within a day.

33. A method according to claim 29, wherein selecting for the user an application service based upon the pattern of usage comprises selecting an application if a frequency with which the user invoked the application service is more than a first predetermined threshold and a determined accuracy of a speech recognition of the user is within a predetermined accuracy range.

5

34. A method according to claim 29, wherein selecting for the user an application service based upon the pattern of usage comprises selecting an application if a frequency the user invoked the application service is less than a first predetermined threshold and a frequency one or more other users invoked the application service is above a second predetermined threshold.

5

35. A method according to claim 29, wherein selecting for the user an application service based upon the pattern of usage comprises selecting an application if a frequency



the user invoked the application service at a predetermined location cluster is above a predetermined threshold.

36. An apparatus for using historical data of a user in a voice application, the method comprising:

a server having a processor and memory, wherein the server has code executed thereon programmed to:

5 provide a user with an interface to access the application and to invoke one of a plurality of application services;

obtain and store information about a plurality of application services invoked by the user;

10 analyze the information about a plurality of application services invoked by the user to determine a pattern of usage of one or more available application services;

select for the user an application service based upon the pattern of usage; and  
provide the selected application service to the user.

37. An apparatus according to claim 36, wherein the code executed on the server that is programmed to select for the user an application service based upon the pattern of usage comprises code executed on the server programmed to select an application if a frequency the user invoked the application service is above a predetermined threshold.

38. An apparatus according to claim 37, wherein the frequency is determined by dividing a number of times that the user invoked the application service during a predetermined time period within a day by a number of times that the user could have invoked the application service in the predetermined time period.

5

39. An apparatus according to claim 37, wherein the frequency is determined by dividing a number of times that the user invoked the application service during one or more occurrences of a predetermined time period by a number of the one or more occurrences of the time period.

5

40. An apparatus according to claim 36, wherein the code executed on the server that is programmed to select for the user an application service based upon the pattern of usage comprises code executed on the server programmed to select an application if a frequency with which the user invoked the application service is greater than a first predetermined threshold and a determined accuracy of a speech recognition of the user is within a predetermined accuracy range.

5

41. An apparatus according to claim 36, wherein the code executed on the server that is programmed to select for the user an application service based upon the pattern of usage comprises code executed on the server programmed to select an application if a frequency the user invoked the application service is less than a first predetermined threshold and a frequency one or more other users invoked the application service is above a second predetermined threshold.

5

42. An apparatus according to claim 36, wherein the code executed on the server that is programmed to select for the user an application service based upon the pattern of usage comprises code executed on the server programmed to select an application if a frequency the user invoked the application service at a predetermined location cluster is above a predetermined threshold.

43. An article of manufacture, comprising:  
a computer readable medium having computer readable program code for providing a user an interface to a voice application, the computer readable program code including instructions for:

causing the computer system to provide a user with an interface to access the application and to invoke one of a plurality of application services;

causing the computer system to obtain and store information about a plurality of application services invoked by the user;

causing the computer system to analyze the information about a plurality of application services invoked by the user to determine a pattern of usage of one or more available application services;

causing the computer system to select for the user an application service based upon the pattern of usage; and

causing the computer system to provide the selected application service to the user.

TOPTT "B622660

44. An article of manufacture according to claim 43, wherein the instructions for causing the computer system to select for the user an application service based upon the pattern of usage comprises instructions for causing the computer system to select an application if a frequency the user invoked the application service is above a  
5 predetermined threshold.

45. An article of manufacture according to claim 43, wherein the frequency is determined by dividing a number of times that the user invoked the application service during a predetermined time period over one or more days by a number of the one or more days.

46. An article of manufacture according to claim 43, wherein the frequency is determined by dividing a number of times that the user invoked the application service during one or more occurrences of a predetermined time period by a number of the one or more occurrences of the predetermined time period.

47. An article of manufacture according to claim 43, wherein the instructions for causing the computer system to select for the user an application service based upon the pattern of usage comprises instructions for causing the computer system to select an application if a frequency with which the user invoked the application service is greater  
5 than a first predetermined threshold and a determined accuracy of a speech recognition of the user is within a predetermined accuracy range.



51. A method according to claim 50, wherein the information representative of the other users' past access to the application includes an identifier associated with a service provided by the application.

52. A method according to claim 50, wherein the information representative of the user's past access to the application includes a time that the user requested the service.

53. A method according to claim 50, wherein the information representative of the other users' past access to the application includes a date that the other users requested the service.

54. A method according to claim 50, wherein the step of selecting an application service for the user, comprises:

determining, for a predetermined number of occurrences of a time period, a number of times the other users selected an application service during the predetermined number of the occurrences of the time period; and

selecting the application service if the number of times the other users selected the application service during the predetermined number of the occurrences of the time period is equal to or above a predetermined threshold.